

**UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY
CAMDEN VICINAGE**

**IN RE
PAULSBORO DERAILMENT CASES**

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**MASTER DOCKET NO.:
1:13-CV-784 (RBK/KMW)**

ALICE BREEMAN, *et al.*

Plaintiffs,

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CIV NO. 1:12-07468 (RBK/KMW)

v.

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:

**CONSOLIDATED RAIL
CORPORATION, *et al.*,**

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:
:

Defendants.

:

**PLAINTIFFS' BRIEF IN OPPOSITION TO DEFENDANTS'
MOTION TO EXCLUDE THE EXPERT REPORT AND
TESTIMONY OF LEE BROOKS, M.D. [ECF #747]**

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III. Introduction

Defendants' seek to exclude the expert opinion of Dr. Lee J. Brooks – that vinyl chloride from the derailment was a substantial contributing factor in exacerbating the respiratory problems of then-eighteen-month-old Savannah Breeman-Hodges, who on the morning of the derailment was in the vinyl chloride cloud for a considerable length of time breathing in vinyl chloride, and who immediately thereafter started coughing unusually frequently and violently, requiring medical treatment. Defendants fail to acknowledge that Dr. Brooks has not opined that vinyl chloride was *the cause* of Savannah's respiratory problems, but simply that the vinyl chloride exposure "was a substantial factor in contributing to her current condition, as the severity of her respiratory problems worsened markedly after the incident. To the extent that Savannah may have had pre-existing respiratory issues, these exposures would definitely exacerbate them." Exhibit A (Expert Report of Lee J. Brooks, M.D.) at 2.

Defendants' motion is completely devoid of any scintilla of common sense. To accept Defendants' attack upon Dr. Brooks, the Court would need to conclude that Savannah's coughing symptoms and the exacerbation of her respiratory problems immediately following her prolonged inhaling of vinyl chloride (a chemical which indisputably affects the respiratory system adversely) were as likely to have been caused by a coincidental kicking-up of her asthma from an

unexpected, unproven spike in the pollen count on the last day of November.

Obviously, such irrationality does not hold sway under Rule 702 and *Daubert*.

Brief summary of Dr. Brooks's credentials

Lee J. Brooks M.D. is a Clinical Professor of Pediatrics at the University of Pennsylvania and an attending physician in the Division of Pulmonary Medicine of The Children's Hospital of Philadelphia. As reflected in his C.V. (Exhibit B), after serving research fellowships in Pulmonary Research at Children's Hospital Medical Center in Boston and in Pediatrics at Harvard University School of Medicine, Dr. Brooks has had a long and distinguished professorial career at numerous major universities, as well as numerous pediatric appointments at major children's hospitals and a prolific publishing career. He has been invited to give lectures both throughout the United States as well as internationally throughout his career. He is also on the editorial boards of a multitude of medical publications.

II. Statement of Facts Specific to Savannah Breeman¹

The Breemans live just a half-mile from the site of the derailment. On the morning of the derailment, November 30, 2012, Savannah's mother, Alice Breeman, was preparing to take eighteen-month old Savannah and her sisters to

¹ Plaintiffs incorporate by reference the statement of facts regarding the accident and vinyl chloride release and its aftermath, set forth at pp. 1-10 of Plaintiffs' Brief in Opposition to Defendants' Motion to Exclude the Testimony and Report of Dr. Omowunmi Osinubi, filed on June 19, 2015.

day care and school, respectively. When they left home that morning, Alice saw fog, and drove through the fog to get to the school. Upon hearing that the elementary school was on lockdown she turned around and drove through the fog again, to Tracey's Day Care at 337 Mantua Avenue, about 0.3 miles from the derailment site. They exited the car and walked through the chemical fog to the day care center, but were told that the center was on lockdown and could not accept any more children. Alice once again took her children through the fog, back into the car, and went to her children's stepmother's house two blocks away, where they again walked through the fog until entering the stepmother's house.

Two hours after breathing in the vinyl chloride, Savannah started coughing and has had a persistent reoccurring cough since that time. The following day, because she had been exposed to and had inhaled vinyl chloride, she was taken to the ER and treated for reactive airway disease, which was diagnosed by Dr. Maria Kent. On December 12, 2012, Savannah was again taken to Dr. Kent for a follow-up visit based on her exposure to vinyl chloride.² Since having been treated in the ER on the prior occasion, the issue had been resolved and Dr. Kent detected no new symptoms on December 12th.

² Dr. Maria Kent had been treating Savannah for her entire 18 months of life. On September 13, 2011, when Savannah was just three months old, she had been taken to the ER because of cough and nasal congestion. Dr. Kent described a "stable 3-month old baby with history of cough, viral infection." She also had previously been diagnosed with asthma.

III. Argument

Defendants grossly mischaracterize Dr. Brooks's opinion, claiming that it is based merely on his "subjective belief," which, in turn, is based on an allegedly biased account of little Savannah's symptoms provided to him by her mother. Contrary to Defendants' mischaracterizations, however, it is readily evident that Dr. Brooks's opinions are proper expert opinions under Rule 702.

"The Rules of Evidence embody a strong and undeniable preference for admitting any evidence which has the potential for assisting the trier of fact." *Kannankeril v. Terminix Int'l Inc.*, 128 F.3d 802, 806 (3d Cir. 1997) (citing *Holbrook v. Lykes Bros. S.S. Co.*, 80 F.3d 777, 780 (3d Cir. 1996)); *see also* Fed. R. Evid. 402 ("Relevant evidence is admissible."). If expert evidence is admissible, the trier of fact will determine the proper weight to give it. *Maloney v. Microsoft Corp.*, 2011 U.S. Dist. LEXIS 127870, at *6-7 (D.N.J. Nov. 4, 2011).

In considering pre-trial challenges to expert testimony, Rule 702 has "three major requirements: (1) the proffered witness must be an expert, *i.e.*, must be qualified; (2) the expert must testify about matters requiring scientific, technical or specialized knowledge; and (3) the expert's testimony must assist the trier of fact." *Pineda v. Ford Motor Co.*, 520 F.3d 237, 244 (3d Cir. 2008).³ "A district court's inquiry under Rule 702 is 'a flexible one' and must be guided by the facts of the

³ Defendants do not challenge Dr. Brooks's qualifications.

case.” *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 294 (3d Cir. 2012).⁴

Moreover, as the Third Circuit observed in *Pineda*, “[w]hile a litigant has to make more than a prima facie showing that his expert's methodology is reliable, we have cautioned that ‘[t]he evidentiary requirement of reliability is lower than the merits standard of correctness.’” 520 F.3d at 247, citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 744 (3d Cir.1994). See also *In re TMI Litig.*, 193 F.3d 613, 665 (3d Cir.1999) (“the standard for determining reliability is not that high, even given the evidentiary gauntlet facing the proponent of expert testimony under Rule 702”) (internal quotation marks and citation omitted). *United States v. Sandoval-Mendoza*, 472 F.3d 645, 655 (9th Cir. 2006) (*Daubert* factors should not unduly limit admission of medical expert opinion testimony, which is based on specialized, as distinguished from scientific, knowledge, and which should be admitted if physicians would accept it as useful and reliable.). Rather than attempt, unnecessarily, to pound “square pegs into round holes,” Plaintiffs focus on those factors that are pertinent to determining that Dr. Brooks’s methodology is reliable.

⁴ Defendants argue for a rigid application of eight factors (which Defendants call an “eight-part test”) identified for assessing expert reliability. Defs’ br. at 4. Defendants ignore the fact that the eight factors “are neither exhaustive nor applicable in every case.” *Kannankeril v. Terminix Int’l, Inc.*, 128 F.3d 802, 806-07 (3d Cir.1997). See also *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 151-52 (1999) (noting that *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993) itself “made clear that its list of factors was meant to be helpful, not definitive;” that “a trial court should consider the specific factors identified in *Daubert* where they are reasonable measures of the reliability of expert testimony”) (emphasis added).

A. Dr. Brooks used well-established and generally accepted methodology to opine that Savannah Breeman's exposure to vinyl chloride was a contributing factor in exacerbating her respiratory problems.

Dr. Brooks's methodology is not only logical but is generally accepted in the medical field and by the courts. He bases his opinion on the fact that Savannah was exposed to significant levels of vinyl chloride as a result of the train derailment, and that "[t]wo hours later, Savannah started coughing, and the cough has been persistent since then" Exhibit A at 1. This is exactly what would be expected to result, and follows the methodology used by the New Jersey Department of Health in its own health consultation for Paulsboro and accepted by Defendants' expert, Dr. Greenberg. *See* NJ DOH Air Quality Health Consultation, at 12 (hereafter "NJDOH Consultation");⁵ Greenberg June 16, 2015 dep. at 138, 144. (acknowledging relationship between exposure level to a chemical and symptoms related to such exposure).⁶ *See also* Greenberg dep. at 163. (acknowledging significance of temporal proximity of exposure and symptoms).

Defendants accuse Dr. Brooks of "mistaking sequence for consequence." Defs' br. at 13. They argue that a "causation opinion based solely on a temporal relationship" is not derived from scientific methodology. *Id.* Again, Defendants'

⁵ The NJDOH Consultation is Exhibit E to the Declaration of Omowunmi Osinubi, MD, M.Sc., MBA, FRC, ABIHM, filed on June 19, 2015.

⁶ Dr. Greenberg's testimony referenced herein is contained in Exhibit E submitted herewith.

mischaracterize Dr. Brooks's opinion. As a preliminary matter, Plaintiffs note that it would be nonsensical for any doctor to conclude that perhaps breathing in the vinyl chloride – which had just occurred and which is known to cause respiratory problems – did *not* trigger Savannah's symptoms occurring immediately thereafter, but that maybe her asthma – which had no increased manifestation – was somehow the reason for Savannah's coughing. And even if one could make such an absurd assertion, still Dr. Brooks's opinion is that, given the juxtaposition of Savannah's vinyl chloride exposure and her coughing, such exposure was a *substantial factor in contributing* to her current condition, not that it is the *cause* of her respiratory problems. His opinion is the perfectly logical and obvious inference from the facts, precisely what any competent physician would acknowledge.

B. Dr. Brooks's opinion easily survives under controlling case law

Under the law in this circuit, Dr. Brooks's opinion is certainly reliable. In *Kannankeril*, the plaintiff claimed she had a cognitive impairment caused by exposure to pesticides applied by Terminix. The trial court struck the expert's causation testimony on grounds that there was no air-testing sufficient to support the expert's opinion about the plaintiff's exposure and that the expert's opinion on causation was unreliable and unsupported by fact, the same arguments made by Defendants here. The Third Circuit reversed. In discussing the exposure, the Third Circuit rejected the notion that the plaintiff's expert had to rely on ambient

air tests (which were not conducted until 9 months after the application of pesticides), and found it sufficient for the expert to look at Terminix's application records showing when, how much and where pesticide had been applied.

Kannankeril, 128 F.3d at 808-809. Critical to the instant motion, the Third Circuit in *Kannankeril* held that "***all factual evidence*** of the presence of the chemicals in the residence should be relevant in forming an expert opinion of causation." *Id.* at 809 (emphasis added). The Third Circuit's holding cements the principle that *Daubert* reliability determinations must be made upon consideration of the full evidentiary record, which will dictate whether or not certain exclusionary principles are apt.

In this case, although there are no precise measurements of Plaintiffs' exposure, it is undisputed that 23,000 gallons of vinyl chloride were released into the environment and that this amount of vinyl chloride would fill up a cloud over 27,000 cubic meters in size of 100% Vinyl Chloride. This is more than analogous to the "application records of how much pesticide was applied" in the *Kannankeril* case. If that were not enough, there is substantial evidence that Plaintiffs drove through the fog multiple times and in close proximity to the derailment site. And then there is Dr. Georgopoulos's model and the NJ DOH report, both of which document extensive levels of exposure and demonstrate that Plaintiffs' locations on November 30, 2012 subjected them to those high levels.

In *Kannankeril*, the expert's methodology was indistinguishable from that employed by Dr. Brooks here: it was based on the "temporal relationship and nature of her complaints." *Kannankeril, supra*, 128 F.3d at 805. The Third Circuit concluded that because the plaintiff's expert had based his opinion on the plaintiff's medical records and reports of the volume of pesticide applied and his general experience, general medical knowledge, standard text books, and standard references, the experts "opinion on causation has a factual basis and supporting scientific theory."

There is a legion of case-holdings in line with Dr. Brooks's methodology – that an acute exposure closely followed by symptoms known to result from that exposure provides good grounds for an expert's opinion on causation. *See, e.g., Thomas v. CMI Terex Corp.*, 2009 U.S. Dist. LEXIS 86623, at *40 (D.N.J. Sept. 21, 2009) (Simandle, J.) ("The question of causation can be resolved by a doctor without even medical testing, where the temporal proximity between an accident and the subsequent injury make the accident the most probable cause of the injury.") (and collecting cases). In *Winnicki v. Bennigan's, et al.*, 2006 U.S. Dist. LEXIS 5568 (D.N.J. Feb. 9, 2006) (Greenaway, Jr.), for example, the court evaluated expert testimony in a case in which the plaintiff ate a Caesar salad the night before she became sick with acute gastrointestinal dysfunction, which led to kidney failure and death. Although the expert could never determine exactly what

was wrong with the salad, he opined that the salad was the cause of the condition using a differential diagnosis and temporal relationship. The court denied the defendant's motion to exclude the expert, citing Third Circuit precedent (*e.g.*, *Kannankeril*) accepting "medical testimony that relies heavily on a temporal relationship between and illness and a causal event." *Id.* at *46.⁷

C. No precise measurement of Savannah's level of vinyl chloride exposure is needed to establish that such exposure was a substantial contributing factor in exacerbating her respiratory problems, particularly where, as here, there is abundant evidence of substantial exposure.

Defendants do not argue that Savannah was not exposed to the vinyl chloride or that she did not breathe it in for an extended period of time. They assert that Dr. Brooks cannot quantify her exposure or state whether the exposure was significant enough to have "caused her to develop any respiratory symptoms." Defs' br. At 12. But under the law, he need not be able to quantify the exposure in order for his opinion to be considered reliable. Such a showing was not required by the New Jersey DOH, nor is it required by the pertinent case law.⁸

⁷ See also *McCulloch v. H.B. Fuller Company*, 61 F.3d 1038 (2d Cir. 1995) (holding that trial court had properly admitted expert testimony of consulting engineer as to whether employee was within the "breathing zone" of fumes, and of medical doctor regarding worker's throat ailment and its potential causes).

⁸ Of course, record evidence already shows that, according to the New Jersey DOH, "[i]n Paulsboro there *was* a completed exposure pathway to Vinyl Chloride in the hours and days following the derailment" NJ DOH Air Quality Health Consultation, p. 6 (emphasis modified).

As the Third Circuit explained in *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 157 (3d Cir. 1999), “even absent hard evidence of the level of exposure to the chemical in question, a medical expert could offer an opinion that the chemical caused plaintiff’s illness.” As another court has explained, in rejecting a railroad’s *Daubert* challenge:

We disagree with CSX that in order to validate the testimony of the medical experts, Moody was required to prove the precise dosage of solvents to which he was exposed and the precise level required to have a harmful effect on human beings. * * *

He presented testimony concerning how often he used the offending solvents and the duration of his exposure. He further explained the physical symptoms that he suffered while working with the solvents. While not quantitatively specific, the expert testimony supports the conclusion that Moody’s exposure, under the circumstances described, and his length of the exposure, are sufficient to cause his toxic encephalopathy.

CSX Transp., Inc. v. Moody, 2007 Ky. App. LEXIS 208, at *18-19 (Ky. Ct. App. July 13, 2007); *see also Whitlock v. Pepsi Ams.*, 527 Fed. App’x 660, 661-662 (9th Cir. 2013) (“Plaintiffs’ **probable** ingestion of TCE-contaminated groundwater,” coupled with the fact “that the alleged TCE and chromium exposure levels were ‘within [a] reasonable range of that known [from several studies] to induce’ the alleged injuries” was sufficient for expert testimony to satisfy *Daubert*; “Whether [that testimony] proves causation is not a question of admissibility.”) (emphasis added); *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 263-264 (4th Cir. 1999)

(affirming admission of expert opinion that plaintiff's work exposure to talc caused aggravation of his sinus condition over defendant's objections that: no studies linked inhalation of talc to sinus disease, inhalation could not be quantified, and no proof on threshold was offered; the court noted that such evidence is not always available or necessary, plaintiff had daily work exposure to talc, and science data confirmed that talc irritates the mucous membranes); *Louderback v. Orkin Exterminating Company*, 26 F. Supp. 2d 1298, 1306-07 (D. Kan. Oct. 14, 1998) (as long as expert considered facts of plaintiff's exposure, the temporal relationship between exposure and disease, the plaintiff's medical records and history of disease, then an expert's opinion on causation is considered reliable and clearly "has a factual basis and supporting scientific theory" even when there is no specific evidence of exposures in excess of the ACGIH threshold level or the EPA reference dose); *Harris v. Peridot*, 313 N.J. Super 257, 298 (N.J. Super. Ct. - App. Div. 1998) (holding that an expert could reasonably consider the fact that the injuries sustained are consistent with a high level of exposure on "both sides of the equation," i.e. as additional evidence supporting the conclusion that the exposure was substantial); *Donaldson v. Central Illinois Public Service*, 199 Ill.2d 63, 89, 90-92, 767 N.E.2d 314, 331-332 (Ill. 2002) (Illinois Supreme Court rejected contention that toxic tort causation requires a definitive showing of "exposure" either through quantification of dose or proof from biological markers; plaintiffs

can establish cause in fact from circumstantial evidence of their exposure to coal tar, reasoning that "[e]nvironmental exposure cases... do not afford litigants the opportunity to specify with such certainty the exact level and dose of exposure.”⁹

One of the cases Defendants themselves cite states, “[a]t a minimum, we think that there must be evidence from which the factfinder can conclude that the plaintiff was exposed to levels of that agent that are known to cause the kind of harm that the plaintiff claims to have suffered.” *Wright v. Willamette Indus.*, 91 F.3d 1105, 1107 (8th Cir. Ark. 1996). It is undisputed that vinyl chloride causes the types of symptoms that Savannah experienced. Further, it is well documented that the levels of vinyl chloride in Paulsboro on the day of the derailment and thereafter were very significant and are known to cause the kinds of symptoms Savannah exhibited. Savannah experienced an unmistakable, immediate response to the “dose” she was subjected to. Following standard methodology in the field of

⁹ Moreover, courts routinely recognize that odor threshold is admissible as evidence of exposure when actual measurements are not available. See, e.g., *Taylor v. Union Pacific Railroad Co.*, 2010 U.S. District LEXIS 96802, at *12-12, 24-26 (S.D. Ill. Sept. 16, 2010) (holding that experts could conclude the exposure to sulfuric acid in excess of OSHA limits occurred because the odor threshold was at least the OSHA limit and multiple workers could smell the odor); *BP Amoco v. Flint Hills Res.*, 2009 U.S. Dist. LEXIS 131282, at *16 (N.D. Ill. June 3, 2009) (odor threshold testimony deemed non-speculative and admissible); *Magistrini v. One Hour Martinizing Dry Cleaning*, 180 F. Supp. 2d 584, 614 (D.N.J. 2002) (same); *Roney v. Gencorp*, 2009 US Dist. LEXIS 85816 (S.D.W.V.) (denying Daubert challenge of expert who relied on odor threshold to estimate vinyl chloride exposure); *Lewis v. Airco*, Dkt # A-3509-08T3, 2011 NJ Super. Unpub. LEXIS 1914, at *20 (N.J. Super. Ct. - App. Div. July 15, 2011) (recognizing odor threshold as relevant to estimate exposure to vinyl chloride).

medicine, Dr. Brooks has opined that Savannah's inhaling the vinyl chloride was a substantial factor contributing to her existing respiratory issues. Accordingly, his opinion is not subjective, but is rational and is based on scientific methodology. It is therefore reliable under Rule 702 and *Daubert*, and should be admitted into evidence at trial.¹⁰

Defendants erect a "straw man," arguing that "to the extent" Dr. Brooks relies on the opinions of Drs. Osinubi and Laumbach to establish the levels of Plaintiff's exposure, such reliance is unreasonable. Defs' br. At 12. Defendants contend Dr. Brooks "blindly relied" on those expert opinions to assess the level of vinyl chloride exposure. *Id.* at 13. But Defendant's straw man vanishes when one examines Dr. Brooks's opinion and testimony and sees that he does not rely on the other experts' opinions but only on the independent, scientific exposure *data* those opinions cite.¹¹ And defendants concede that an expert may rely on facts or data

¹⁰ Defendants' statement at p. 12 of their brief that "[i]nstead of trying to equate Plaintiff's location at the time of the derailment to any exposure measurements, [Dr. Brooks] instead relies on Plaintiff's mother's word," grossly distorts the record. Dr. Brooks reviewed the data supporting Dr. Osinubi's opinion, which consists, *inter alia*, of vinyl chloride measurements following the derailment, made by independent government agencies and others having expertise in such matters. Presumably, Defendants do not contend Savannah's mother lied about the family's whereabouts on the morning of the derailment.

¹¹ See Brooks dep. at 53:10-21 ("... Dr. Osinubi's notes had a lot of details on the accident itself, which I had only vague knowledge of before, and a lot of detailed information about vinyl chloride."). The excerpts of Dr. Brooks's testimony cited by plaintiffs herein are contained in Exhibit C to the attached Declaration of Mark

reasonably relied upon by experts in the particular field. *Id.* Also contrary to Defendants' assertions, Dr. Brooks does not rely on the other experts' *opinions*, and he does not "repeat or adopt the findings" of other experts. *Id.* at 12-13, *citing In re Polypropylene Carpet Antitrust Litig.*, 93 F. Supp.2d 1348, 1357 (N.D. Ga. 2000). Hence, there is no need for him to have checked their qualifications or assessed the validity of their opinions.¹²

Defendants next assert that Dr. Brooks's opinion is not reliable because, in examining Savannah he had to base his analysis on the symptoms as reported by Savannah's mother, who conceivably could have exaggerated the symptoms. *See* Defs' br. at 8-10. Even so, a mother's report of a small child's symptoms is obviously the type of information that doctors generally rely upon in diagnosing a

R. Cuker in Support of Plaintiffs' Brief in Opposition to Defendant's Motion to Exclude the Expert Report and Testimony of Lee Brooks, M.D.

¹² Similarly, Dr. Brooks does not rely on reports specifically prepared for litigation, as Defendants accuse him of doing. He *read* the reports and took cognizance of the independent *data* to which they refer regarding the harmful characteristics and exposure level of vinyl chloride. *See* Brooks dep. at 53:10-21 ("... Dr. Osinubi's notes had a lot of details on the accident itself, which I had only vague knowledge of before, and a lot of detailed information about vinyl chloride."). Indeed, Defendants make the demonstrably false assertion that "[i]t is undisputed ... that Dr. Brooks blindly relied on" the Osinubi and Laumbach reports." Defs' br. at 13. When asked at his deposition about his review of those reports, Dr. Brooks testified that it was "helpful" to have reviewed the reports, but: "Q. ... [I]f you had not seen Osinubi and Laumbach's report, you still could have arrived at the conclusion in your last paragraph on Page 2, correct? A. Yes. Q. Okay. So, therefore, you did not have to rely on them to come to that conclusion? A. That's right." Brooks dep. at 55:7-18.

small child's injuries. And, while here we are discussing the opinion of an expert witness, such a possibility does not render the opinion unreliable. Indeed, even "marginally scientifically reliable is not *unreliable*." *In re TMI*, 193 F.3d at 712. "Where there is a logical basis for an expert's opinion testimony, the credibility and weight of that testimony is to be determined by the jury, not the trial judge." *Breidor v. Sears, Roebuck & Co.*, 722 F.2d 1134, 1138-39 (3d Cir. 1983).

Even further mischaracterizing the facts, this time also using quotation snippets out of context, Defendants argue that Dr. Brooks's "reliance on Plaintiff's mother's subjective self-report as a basis for [his] opinions" does not withstand *Daubert*, adding that "the Third Circuit has affirmed the exclusion of expert testimony where, *as here*, an expert was 'retained strictly for litigation purposes [and] based ... [a] causation [opinion] on nothing more than a plaintiff's self-report.'" Defs' br. at 9, "quoting" *In re TMI Litig.*, 193 F.3d 613, 698 (3d Cir. 1999). The TMI case that Defendants rely on stated:

There is nothing improper about a medical report prepared solely for litigation. However,

a physician who evaluates a patient in preparation for litigation should seek more than a patient's self-report of symptoms or illness *and hence should either examine the patient or review the patient's medical records* simply to determine that a patient is ill and what illness that patient has contracted.

[*In re Paoli Railroad Yard PCB Litig.*, 35 F.3d 717, 749 (3d Cir. 1994) ("Paoli II").]. In Paoli II we concluded that

where the physician who had been retained strictly for litigation purposes *based pathological causation on nothing more than a plaintiff's self-report of an illness*, the District Court's exclusion of the resulting evidence did not constitute an abuse of discretion.

In re TMI, 193 F.3d at 698 (citations omitted) (emphasis added).

Here, of course, unlike the excluded expert referred to in the above quote, Dr. Brooks did not base his opinion strictly on self-report; he both examined Savannah *and* reviewed her medical records, among other things.¹³ Defendants' argument is based on a completely false premise, and should be rejected. In reality, upon close examination, it is clear that Defendants are attacking Dr. Brooks's *conclusions*, not his methodology. This is an improper basis on which to exclude an expert opinion.

Finally, Defendants compare Dr. Brooks's opinion that breathing in vinyl chloride was a *substantial factor in contributing* to Savannah's *coughing symptoms* to a case where an expert failed under *Daubert* because he did not show the level of creosote exposure needed to *cause skin cancer*. See Defs' br. at 11. The two situations are simply not analogous. It is common knowledge that cancer is not a symptom that appears immediately in response to some external stimulus but rather takes time to develop. Here, we are simply talking about an opinion that the symptom of an immediate coughing response to inhaling a chemical known to

¹³ The excluded expert in *TMI* had not examined the patients and was relying on medical summaries prepared from interviews conducted by nonprofessionals. *Id.*

cause respiratory problems indicates that the chemical *contributed to* exacerbating pre-existing respiratory problems.

D. The Bradford Hill factors are not a *per se* requirement, and do not apply in cases focusing on acute exposure.

Defendants criticize Dr. Brooks for not using the Bradford Hill methodology, but that methodology does not govern a case of acute exposure causing acute injury. Courts recognize that a strong temporal relationship and immediate symptomology can support a conclusion of causation. *See, e.g., In re Stand 'N Seal Prods. Liab. Litig.*, 623 F. Supp. 2d. 1355, 1371-72 (N.D. Ga 2009) (causation opinion that exposure caused chemical pneumonitis survived *Daubert* challenge because strong temporal relationship between exposure and acute onset of respiratory symptoms, despite lack of dose/response data); *In re Ephedra Prods. Liab. Litig.*, 2007 U.S. Dist. LEXIS 74914, at *7 (S.D.N.Y. Oct. 5, 2007), *vacated and remanded on other grounds by Giordano v. Market Am., Inc.*, 289 Fed. App'x 467, 469 (2d Cir. 2008) ("The close temporal proximity between Ms. Stafford's stroke and her use of ephedra, coupled with the general-causation evidence about ephedra's rapidly acting biological effects (in contrast to asbestos), permit a jury to infer that the dose she ingested was sufficient to be considered a substantial factor in causing her stroke."); *see also Cavallo v. Star Enter.*, 892 F. Supp. 756, 774 (E.D. Va. 1995) ("[T]here may be instances where the temporal connection between exposure to a given chemical and subsequent injury is so compelling as to

dispense with the need for reliance on standard methods of toxicology.”); *accord Nat’l Bank of Commerce v. Dow Chemical Co.*, 965 F. Supp. 1490, 1525 (E.D. Ark. 1996).

Sir Bradford Hill himself recognized that his viewpoints could be irrelevant in the case of acute exposure to indisputably toxic chemicals. *See* Exhibit D at 1 (Sir Austin Bradford Hill, *The environment and disease: association or causation?*, Journal of the Royal Society of Medicine, Volume 58 issue 5, May 1965) (hereafter “Hill article”) (reprinted in JRSM Vol. 108(1) 32–37 (2015)) (“A particular and perhaps extreme physical environment cannot fail to be harmful. A particular chemical is known to be toxic to man therefore suspect on the factory floor. Sometimes alternatively, we may be able to consider what might a particular environment do to a man ***and then see whether such consequences are, indeed, to be found.***”) (emphasis added); *see also Milward v. Acuity Specialty Prods. Group*, 639 F.3d 11, 17 (1st Cir. 2011) (“None of my nine viewpoints can bring indisputable evidence for or against the cause-and-effect hypothesis and none can be required as a *sine qua non*.”) (quoting the Hill article); Federal Judicial Center, Reference Manual on Scientific Evidence 600 (3d ed. 2011) (“There is no formula or algorithm that can be used to assess whether a causal inference is appropriate based on these guidelines. One or more factors may be absent even when a true causal relationship exists.”).

E. The absence of studies or literature assessing identical high-level, non-occupational acute exposure to vinyl chloride monomer does not at all render Dr. Brooks's opinion inadmissible.

There is no requirement “that a medical expert must always cite published studies on general causation in order to reliably conclude that a particular object caused a particular illness.” *Heller v. Shaw Indus.*, 167 F.3d 146, 155 (3d Cir. 1999); accord *Kudabeck v. Kroger Co.*, 338 F.3d 856, 862 (8th Cir. 2003). That precedent was applied in *Best v. Lowe's Home Ctrs., Inc.*, 563 F.3d 171 (6th Cir. 2009), where the Sixth Circuit reversed exclusion of plaintiff's medical expert, Dr. Moreno. The court stated:

Based on his medical knowledge, Dr. Moreno compiled a list of possible causes for the injury . . . Lowe's strongest argument is that no published material confirms that inhalation of the chemical in Aqua EZ can cause anosmia. But ‘there is no requirement that a medical expert must always cite published studies on general causation in order to reliably conclude that a particular object caused a particular illness.’ Dr. Moreno did not arbitrarily ‘rule in’ Aqua EZ as a potential cause, but instead concluded from the MSDS sheet and his own knowledge of medicine and chemistry that the chemical it contains can cause damage to the nasal and sinus mucosa upon inhalation.

Id. at 180-181 (internal citation omitted).

There is no large compendium of studies of effects of a 23,000 gallon release of vinyl chloride into a community of 6,000 people. Under these circumstances physicians look to analogous conditions.”).¹⁴

F. Dr. Brooks reliably concluded that vinyl chloride exposure can exacerbate respiratory disease

It is undisputed that vinyl chloride is a respiratory irritant. *See* New Jersey Department of Health Hazardous Substance Fact Sheet for Vinyl Chloride (“NJDOH fact sheet”) at 1, stating “Inhaling Vinyl Chloride can irritate the nose, throat and lungs.”¹⁵ Defendants’ expert Dr. Greenberg agrees that Vinyl Chloride is a respiratory irritant. Greenberg June 8, 2015 Dep. at 11:4-13:8.

In addition to having reviewed Dr. Osinubi’s report and the data backing it up, Dr. Brooks reviewed two articles (the “Lilis” and “Suzuki” articles), the first one indicating that vinyl chloride is a respiratory irritant (the other one involved research on mice). Brooks dep. at 33:4-16; 108:23-109:9. He also considered additional information along the same lines, prior to giving a deposition but after

¹⁴ Quantitative and qualitative concerns about medical literature go to the weight, not admissibility, in any event. *Cf. McCulloch v. H.B. Fuller Co.*, 61 F.3d 1038, 1042 (2d Cir. 1995) (holding that peer review and publication or general acceptance of an expert's theory goes to the weight of the testimony rather than its admissibility).

¹⁵ The NJ DOH vinyl chloride fact sheet was filed on June 19, 2015 as Exhibit A to the Declaration of Mark R. Cuker in Support of Plaintiffs’ Opposition to Defendants’ Motion for Summary Judgment as to Plaintiffs’ Claims for Punitive Damages.

writing his report, which did not change his opinion but strengthened it. *Id.* at 109:14-20. Dr. Brooks is certainly entitled to rely on the wealth of information generally available, which proves that vinyl chloride causes respiratory problems, sometimes extremely severe ones. *See e.g.* NJDOH fact sheet at 1. Since it is well known that vinyl chloride causes respiratory problems, there is no need for Dr. Brooks to personally “prove” that it’s possible for vinyl chloride to exacerbate such problems. Saddling him with such an unnecessary “make-work” burden is not needed to determine that his opinion is reliable under Rule 702.

Daubert does not require that an expert’s opinion be correct. *See In re TMI*, 193 F.3d at 692, *citing Paoli II*, 35 F.3d at 744. Rather, plaintiffs need only demonstrate that the opinion rests on “good grounds” and is therefore reliable. *Id.* When, as here, such a showing has been made, the expert’s opinion “should be tested by the adversary process -- competing expert testimony and active cross-examination -- rather than excluded from juror's scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies.” *Id.*, *quoting Ruiz-Troche v. Pepsi Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 85 (1st Cir. 1998), *citing Daubert*, 509 U.S. at 596.

G. Dr. Brooks Properly Accounted for Alternate Causes

The reliability of differential diagnosis has been approved in this circuit. *Heller, supra*, 167 F.3d at 154-155 (3rd Cir 1999); *Paoli II*, 35 F.3d 717, 742, n.8

(3rd Cir. 1994). “To properly perform a differential diagnosis, an expert must perform two steps: (1) ‘Rule in’ all possible causes of [injury] and (2) ‘Rule out’ causes through a process of elimination whereby the last remaining potential cause is deemed the most likely cause of [injury].” *Feit v. Great W. Life & Annuity Ins. Co.*, 271 Fed. App’x 246, 254 (3d Cir. 2008). Furthermore, expert testimony on causation is not inadmissible “simply because it fails to account for some particular condition or fact which the adversary considers relevant.” *Creanga v. Jardal*, 185 N.J. 345, 360 (2005).

Defendants note that Dr. Brooks’s report does not rule out alternative causes. Nevertheless, Dr. Brooks testified that he was aware of Savannah’s pre-existing respiratory conditions, and of other possible factors that, in her case, might also exacerbate her respiratory problems, *see* Brooks dep. at 60:14-61:5, but because Savannah experienced violent coughing shortly after her prolonged inhaling of vinyl chloride, his opinion is that the vinyl chloride was responsible for the coughing symptoms she experienced and continues to experience. Exhibit A at 1. *See Heller*, 167 F.3d at 154 (“Both a differential diagnosis and a temporal analysis, properly performed, would generally meet the requirements of *Daubert* and *Paoli*.”). Indeed, Dr. Brooks testified that Savannah’s asthma rendered her more susceptible to the effects of vinyl chloride exposure, making it abundantly clear that her vinyl chloride exposure contributed to exacerbating her respiratory

problems. Brooks dep. at 116:8-117:14. Thus, while Dr. Brooks's report does not set forth a step-by-step ruling out of alternative causes, he indeed considered them in arriving at his opinion is that vinyl chloride exposure has substantially contributed to Savannah's respiratory issues. Furthermore, his opinion does not rule out all possibility that other factors may also contribute to Savannah's ongoing respiratory problems, as he opines that inhaling vinyl chloride was a substantial factor that *contributed to* her condition.¹⁶

Accordingly, Defendants' argument that Dr. Brooks's opinion should be excluded because he did not rule out alternative causes is unfounded and should be rejected.¹⁷

¹⁶ Strangely, citing to pp. 58-59 and 78-79 of the transcript of Dr. Brooks's deposition, Defendants assert that he "wholly fails to meaningfully consider" Savannah's genetic history of asthma and other environmental factors. The testimony on the pages Defendants cite shows clearly that he *did consider* those things. Brooks dep. at 58:15-59:1 ("Q. Do you have an opinion as to whether Savannah has asthma? A. Yes. Q. And what's your opinion? A. I think she does. Q. Okay. Do you have an opinion as to whether she had asthma prior to the derailment? A. Yes. Q. And what's your opinion? A. I think she did."); *Id.* at 78:10-20 ("Q. Okay. Based on your experience, generally, do you know what causes that in children that young? A. Well, it's inflammation in the airways and that can be triggered by a lot of things. Q. I think you'd agree, it could be something in the atmosphere, correct? A. Yes.").

¹⁷ Defendants last argument is that Dr. Brooks's opinion should be excluded under Rule 403(b) because admitting it will prejudice the jury by "distracting them" from whether his opinion is adequately supported. Defs' br. at 16. Defendants, of course, will be free to cross examine Dr. Brooks and to argue that the jury should reject his opinion. It appears Defendants' real concern, clothed as "prejudice," is that Dr. Brooks is a stellar and highly regarded physician, and that his opinion will

III. Conclusion

For all of the reasons given above, Defendants' motion to exclude the testimony of Dr. Brooks in this case should be denied.

DATED: June 29, 2015

Respectfully submitted:

/s/ Mark R. Cuker

Mark R. Cuker, Esq.

Joseph Alan Venti, Esq.

WILLIAMS CUKER BEREZOFSKY

210 Lake Drive East, Suite 101

Cherry Hill, NJ 19102

Counsel for Plaintiffs

persuade the jury to plaintiffs' position. Defendants' desperate Rule 403(b) argument should be rejected.

CERTIFICATE OF SERVICE

I certify that on today's date a true and correct copy of Plaintiffs' brief in opposition to Defendants' motion to exclude the testimony of Dr. Brooks was electronically filed with the Court's CM/ECF system, which will accomplish service of same on all counsel of record.

Dated: June 29, 2015

/s/ Mark R. Cuker
Mark R. Cuker, Esq.